

REMARKS

The Examiner has rejected claims 1 - 11 under 35 USC 102(b) as being anticipated by Rosen et al. (US 6 045 027) and she has rejected claims 9 - 12 under 35 USC 102(e) as being anticipated by Nelson et al. (US 6 648 206).

Rosen et al. (US 6 045 027) discloses friction stir welding for an interlocking joint, that is a butt joint, wherein two plates or workpieces are placed side-by-side for welding. They are mechanically interlocked along the butt joint by a hook-like structure along which the friction welding tool is moved to provide a butt weld.

Claim 1 has been amended to define the invention in a somewhat more distinct manner. It is noted however that the present invention does not relate to butt welding as the cited reference does, but rather to the welding of an overlap joint: The workpieces to be welded together are placed in an overlapping position. The rotating friction stir welding tool is moved axially through the workpiece or pieces disposed on top of one another which are plasticized until the rotating welding tool contacts the top surface of the lower (or lowest) workpiece of which the top surface is plasticized and intermixes with the plasticized material of the work piece or pieces above to form the weld joint upon removal of the rotating tool and solidification of the plasticized material.

In contrast, in Rosen et al., the stir welding pin 16 is moved along the interface between the two abutted workpieces to form the butt weld. Rosen does not disclose at any point that the two workpieces to be joined should be placed on top of one another; they are rather placed side-by-side and may be hooked into one another. This is clearly shown in the drawings and described in column 3, lines 1 - 48. With respect to the embodiment of Fig. 2A, a workpiece 20A is referred to which at the "interface edge 30A" has an N-shaped profile whereas the other workpiece 20B has a complementary shape (column 3, lines 23 - 26). In the embodiment of Fig. 3, the "interface edge B" is S-shaped, but the arrangement is still a butt weld.

In a comparison: In the method according to the present invention "the workpieces 13, 14 are placed on top of one another - In the cited references, they are placed adjacent to one another. With the present invention, the rotation tool is moved onto the uppermost workpiece where the workpieces are to be joined, such that the pin-like projection (11) engages the up-

permost workpiece (13) while being axially pressed against the workpiece to generate friction heat to plasticize the material of the upper workpiece (13) and the rotation tool (10) is moved axially toward the lowermost work piece (14) through the material being plasticized until it contacts the top surface of the lowermost workpiece - In the cited reference, a consumable welding pin 16 is moved into the gap or interface area between the adjacent abutting workpieces and moved along the interface or seam between the abutting work pieces.

The Examiner will certainly agree that the method according to the invention is quite different from that disclosed in the cited reference and, upon reconsideration will agree that claim 1 as amended is not anticipated by the cited reference. Reconsideration of the rejection of claim 1 under 35 USC 102 is respectfully requested.

Furthermore, since the reference cited by the examiner is concerned with a different welding procedure (butt welding instead of overlay welding) and does not involve the same steps as pointed out above, it can hardly be said credibly that the present invention as now more distinctly defined in amended claim 1 is obvious in view of the cited reference.

Claims 2 to 8 define various steps considered to be advantageous in connection with the method as claimed in claim 1. Since these claims are all dependent directly or indirectly on claim 1, they furthermore include all the features of claim 1 and should therefore be patentable together with claim 1 already for that reason.

Claim 10 has been changed to a method claim depending on claim 1 so that it should also be patentable.

Claims 9, 11, and 12 have been canceled.

Reconsideration also of claims 2 - 8 and 10 is respectfully requested and allowance of claims 1 to 8 and 10 is solicited.

Respectfully submitted,



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